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Fostering the learning potential of at-risk students in the classroom

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Document Version

Publisher's PDF, also known as Version of record

Publication date:

2016

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Tiekstra, M. (2016). *Fostering the learning potential of at-risk students in the classroom: Studies into the consequential validity of dynamic assessment*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.

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Chapter 7

General Discussion



The first chapter of this dissertation started with the case of Yamina. This example from daily classroom practice illustrated the gap that presently exists between assessment and instruction. In an attempt to bridge this gap, more information was needed about the consequential validity of assessment procedures. The aim of this thesis was to explore how the consequential validity of (dynamic) assessment could be increased. This can be seen as a methodological and theoretical approach to the “bridging the gap-issue” which is present in educational practice. Therefore, the outcomes will be reviewed in this chapter by means of another description of the case of Yamina:

When the problems of Yamina worsened, the teacher and remedial teacher decided to take action. The teacher developed a series of measurements that linked with his instruction, and started to monitor Yamina's progress to gain more insight in her response to his instruction. He learned a lot with respect to his own teaching when he interpreted Yamina's results to these curriculum based measurements. Based on these evaluations the remedial teacher in turn decided to provide reading instruction in small groups of students that make the same kind of mistakes as Yamina. Although the adaptations in the instructions seemed to improve Yamina's reading results, she still had problems with finishing her tasks and keeping up with her classmates. The teacher and remedial teacher put in a request for an individualised assessment by the school psychologist. The school psychologist listened carefully to the experiences of the teacher and remedial teacher and decided to administer a dynamic assessment procedure to gain more insight in Yamina's problems. The learning potential test estimated Yamina's potential as much higher than expected. Moreover, the school psychologist remarked that Yamina responded well to his metacognitive hints during the assessment. He also noticed that Yamina revived when she experienced her successful responses to the test. The school psychologist was able to write a detailed report from the outcomes of the dynamic assessment procedure. His advice was to especially support Yamina in the metacognitive aspects of learning, such as planning and monitoring, and not to focus on her cognitive learning outcomes alone. Since Yamina has a good potential for learning, the support in the metacognitive area may help her to further develop her reading skills. The school psychologist predicted that Yamina would be much happier, and insisted upon evaluation with the teacher and remedial teacher in three weeks.

This can be seen as a mindful and ideal situation based on a grounded assessment in which the consequences of test outcomes serve as a guiding principle for classroom instruction and

intervention: the gap between diagnosis and instruction has been bridged! This dissertation explored the issues that are needed in order to achieve such an ideal situation in educational practice.

Summary of findings

As explained in *chapter one* bridging the gap not only involves a critical review of current (dynamic) assessment procedures, but also a critical view on the significant others in educational practice. Both sides have been investigated in this thesis. Chapters two and five focused at the consequences of current (dynamic) assessment, chapters three, four, and six focused at significant others in the learning processes of at-risk students.

Since dynamic assessment can be seen as of added value to traditional IQ testing in at-risk students (see chapter 1), and the learning phase during administration could provide useful guidelines for practice, the literature review in *chapter two* focused on current dynamic assessment procedures. A critical review of 31 articles that met the inclusion criteria, in which 29 different assessment procedures were described, revealed that, although promising, these procedures did not yet provide explicit indications for practice. While proximal consequential validity was warranted (i.e., test administration can be adapted to the responses of the student), it remained questionable to what extent distal consequential validity was fostered: the majority of tests resulted in a number (raw score) and only few also included an indication of the level of help needed, but no explicit guidelines resulted from the procedures to underpin interventions. To assess the potential value for bridging the gap, we focused at the learning phase of each procedure. It appeared that during most of the procedures the examiner addressed cognitive and/or metacognitive aspects, whereas motivational aspects never played an explicit role. This is a striking conclusion, since dynamic assessment is known for the attention to non-intellective factors. In sum, although dynamic assessment procedures have potential, they do - in practice - not contribute to bridging the gap between assessment and instruction in their current formats.

In *chapter three* we elaborated on the extent to which a student responded to quality instruction. During dynamic assessment qualitative one-to-one instruction is provided,

and the extent to which a student profits from this instruction is being measured. In other words, the extent to which a student is didactically resistant, one of the criteria for the diagnosis of learning disabilities, is being assessed. But how can this be translated to general classroom practice? The RTI model seemed to be an instrument to make this translation possible. In a qualitative multi-method study, the RTI model was implemented in Dutch educational practice. The results showed that the RTI model can be a valuable tool, but that the way in which the model is implemented is the decisive factor. Not only behaviour of participants needed to change (i.e., they executed the model), but more importantly, their beliefs about teaching and didactic resistance needed to change to make meaningful interpretations about student's responses to their instruction. We concluded that the RTI model can be a valuable tool to measure didactic resistance, but only if teachers have a dynamic view on learning and instruction, and thus, acknowledge their role in student's learning processes.

We regarded this division between the change of belief and the change of behaviour of participants as an important aspect in improving the consequential validity of assessment procedures. Therefore, we wanted to explore the influence of beliefs on teaching behaviour of professionals in the Dutch educational context more in-depth. More specifically, the extent to which implicit theories of intelligence influence behaviour in the case of at-risk children has been investigated in a quantitative study in *chapter four*. It appeared that implicit theories of intelligence play a prominent role in daily classroom practice. In this sample, 34% of the total variance in the actions of teachers can be explained by their implicit theories of intelligence, and in denominational schools this percentage is even 61%. This means that teaching in the Zone of Proximal Development is influenced by teachers' implicit theories of intelligence. Furthermore, a full mediational structural equation model was found in the group of support professionals: implicit theories predict the belief about IQ tests, and, in turn, explains the way people act according to the outcomes of these tests. The consequential validity of tests is, thus, caused by people's implicit theories of intelligence.

Since implicit theories of intelligence, and herewith the faith in testing results, seemed to be important for improving consequential validity, we wanted to investigate what role tests and testing results play in practice to date. Therefore, *chapter five* reported on two qualitative in-vivo studies. In the first study, an open-ending questionnaire amongst 36 school psychologists, 21 special care coordinators, and 44 teachers, revealed ambiguous answers about the use of test results, and the tasks of significant others in educational practice. Therefore, a case study has been set up in the second study. This study also confirmed the gap between assessment and instruction: the teacher as well as the special care coordinator indicated a need for guidelines. However, the results of the IQ test did not provide specific information to guide their instruction. More specifically, the care for and instruction to the student did not change after the administration of the IQ test. To conclude, these in-vivo studies underlined the necessity for other formats of assessment in current Dutch educational practice.

The above-mentioned studies showed the need for more knowledge and skills among educational professionals in order to foster students' learning potential in the general classroom. The influence of implicit beliefs concerning the malleability of intelligence should be recognised. In *chapter six* we, therefore, reported on a pilot study in which a short intensive intervention was implemented with one school team ($N=21$). This pilot study provided insight in the processes that are needed to change current psycho-educational practice in order to bridge the gap between assessment and instruction. It appeared that the short intervention accounted for a change in beliefs of participants: a decline in static views was visible among the whole school team. Besides, the multilevel growth curve model showed that the decline in static views was subject to participants' self-efficacy: the more self-efficacy one has, the more decline in static views, even in the long term. A change in behaviour could, unfortunately, not yet be proven due to restrictions in the measurements. It was concluded that if we want to change behaviour of educational professionals, we should also take beliefs and self-efficacy into account.

All studies underlined the complexity and interrelatedness of several factors with respect to fostering student's potential to learn in the general classroom. In the next sections theoretical

and methodological considerations will be addressed. Furthermore, implications for practice and policy will be highlighted. Finally, conclusions will be listed. The ideal case of Yamina described above will be used to illustrate these considerations.

Theoretical considerations

Many types of, and approaches to, validity exist (Kerlinger & Lee, 2000). This thesis is centred on the concept of ‘consequential validity’. Although Messick (1989) underlined the fact that this concept should not be seen as a separate type of validity, but rather as an aspect of construct validity, emphasis should be put on the importance of his message, and we therefore used the term separately. Messick (1995) stated that “validity is not a property of the test or assessment as such, but rather the meaning of test scores” (p. 5). The application, and herewith the consequence(s), of test scores is a type of validity that should not be neglected. Especially within the context of learning and development, where the ultimate purpose of assessment is to guide actions in the classroom, consequences are of paramount importance in validity research. Therefore, consequential validity can be seen as the ultimate type of validity, while predictive and content validity can be considered as conditional stages to be reached before one can say something about the extent of consequential validity. Therefore, test developers should never disregard the consequences in validity studies.

Currently, consequential validity does not play a central role in validity studies of assessment. This is a missed opportunity, since consequential validity can be seen as the key element in bridging the gap between assessment and instruction in practice. This gap, as shown in chapter five, is still present in daily classroom practice. Dynamic assessment seems promising for bridging this gap. During dynamic assessment the proximal consequential validity is warranted. After all, the examiner adapts hints and feedback to the responses of the examinee in the learning phase: instruction is influenced by test performance. A careful administration of these adaptations could enhance the distal consequential validity of the test procedure. The administration of hints and feedback that the student needs to solve the task relate to adaptations

that could be made in instruction to optimise student's learning. In short, the learning phase during dynamic assessment plays a prominent role in bridging the gap between assessment and instruction.

If dynamic assessment procedures strive to measure learning potential, then significant others need to develop skills in fostering the learning potential. The beliefs of these significant others play a prominent role in fostering learning potential. People's implicit theories of intelligence influence the way test scores are used. Furthermore, test scores affect the way people think about abilities of the student. With respect to the case of Yamina, the consequences of the individual assessment by the school psychologist could have been different to the individual assessment (same test, same student) administered by another school psychologist. It is, therefore, important that tests provide valid scores. Moreover, educational professionals who work with (at-risk) students should have an incremental view on intelligence, i.e., intelligence being seen as malleable. An incremental view on intelligence can be seen as a prerequisite for the implementation of dynamic assessment in current educational practice.

Moreover, the incremental mindset is a prerequisite for the operationalisation of 'didactic resistance'. The concept should be measured at both student and teacher level. After all, it is hard to say anything meaningful about the extent to which a student is didactically resistant without knowing what kind of instruction has been offered by the teacher or remedial teacher. In the ideal situation described above, Yamina's teacher decided to undertake action in order to examine Yamina's didactic resistance. The teacher evaluated his own teaching by curriculum based measurements, the remedial teacher tried to adapt small group instruction to Yamina's needs, and an evaluation moment with the school psychologist will take place in three weeks. In other words, an incremental view of educational professionals accounts for the acknowledgment of their influence to the learning processes of their students. Only in this way, the extent of 'didactic resistance' can be measured.

Methodological considerations

The two-sided approach to the issue of consequential validity, i.e. the focus upon tests on the one hand, and significant others on the other hand, demanded for multiple studies to be carried out. This explorative approach can be regarded as a methodological strength of this thesis. The combination of qualitative and quantitative methods accounted for a strong focus upon contextual influences. Therefore, the conclusions can be seen as ecologically sound. Moreover, the different studies are strongly connected, accounting for the internal validity of the thesis. Each study was anchored on the previous one, exploring an issue more in-depth, or using a different approach to the problem.

A recurrent problem, however, was the attrition of participants. Apparently, the studies addressed emotive subjects for participants in the field. After all, views on learning and a critical view on actions undertaken with at-risk children come very close to participants' actions and their sense of self-efficacy. In some participants this might have provoked resistance, resulting in an avoidance of interest in the studies undertaken. As addressed in chapter three and six, the group that dropped out of the studies did not adhere to or understand a dynamic view on learning. I will further address this issue in the next section.

The strengths of the thesis, the multiple explorative studies and a strong focus on the context, leads us to the weaknesses of the thesis. Since the studies were carried out in small sample sizes, one could question the generalisability of the outcomes to educational practice in the Netherlands, or even abroad. The tension between statistics (focus on generalisability) and need for individual approach in the case of at-risk children is emphasised in this thesis. Although quantitative information provides knowledge about general processes in at-risk students (e.g., the role of working memory in many learning deficits), it does not provide information that is needed in at-risk cases that are often surrounded by individual and specific characteristics. Qualitative information is needed to reveal the specific processes that cause the problems of individual at-risk cases: for example, one dyslexic student can be very different from another, and consequently,

different interventions are needed. Accordingly, a mixed method approach, in which both quantitative and qualitative methods are applied, is needed when studying consequential validity. After all, the context plays an important role with respect to consequential validity, which can be best studied by qualitative methods.

The explorative studies showed the importance of beliefs when changing behaviour. This can be seen as a first step in ameliorating the implementation of dynamic assessment in educational practice. The matter is, however, not yet settled. If we wanted to improve consequential validity, the change in behaviour should have been measured, too. The next step is, therefore, to focus on the transfer of beliefs to behaviour. More importantly, future research should focus on the measurement of teaching behaviour of educational professionals, especially in the case of at-risk children. However, unmanageable processes that are characteristic for educational practice make it hard to study behavioural change. In this light, observations could be combined with other, more generalisable, instruments. Hence, the use of mixed methods is the best way to investigate the complex system of beliefs and behaviour.

Implications for practice and policy

Current educational policies demand for inclusion of students with all kind of disabilities in the regular classroom (UNESCO, 2005). In the Netherlands, more particularly, the policy of “Adaptive Education” forces schools to provide targeted care (a term in line with the DSM-V) for all their students. If we want this targeted care to be effectuated properly, then changes are needed in current educational practice in the Netherlands. In this process, bridging the gap between assessment and instruction is an absolute requirement to improve educational practice. After all, adaptive education demands for an individual approach to students’ learning processes. Moreover, adaptive instruction demands for a critical approach to the instruction provided. Besides, as demonstrated by this dissertation, if we want to change behaviour, beliefs should be addressed first. Next to educational professionals in the schools, such as teachers, remedial teachers, and care coordinators, this involves school psychologists, test developers, and policy makers.

The process from assessment to instruction is composed of several steps. Test scores result from the test administration. These need to be interpreted and translated to the educational practice accurately. In order to provide quality instruction, finally, instruction should be adapted to the outcomes of the measurements. Several stakeholders interact in these different steps. If we want to bridge the gap between assessment and instruction, and accordingly, increase the consequential validity of assessment, the next recommendations should be followed.

Firstly, recommendations at the level of test developers will be addressed. Test developers should think about the consequences strived for when their test is administered. With this, they should consider as well how to prevent bias in interpretations of the results of their tests. With respect to the development of dynamic assessment procedures, progress can be made to result in explicit clues for practice by administering the processes during learning phases carefully. There should be more emphasis on motivational and metacognitive aspects. A qualitative analysis of the aspects deployed and the hints being given will provide explicit guidelines for the significant others around the student being tested. The focus upon these consequences in educational practice will contribute to an improvement of the quality of tests, and should, therefore, have a prominent place in test evaluation reports (COTAN).

This paves the way for the second level of recommendations. School psychologists have the responsibility to communicate the outcomes to educational professionals in the schools, such as (remedial) teachers. They should be able to make accurate interpretations of the test scores, and more prominently, to translate these outcomes to educational practice, in such way that instruction can be adapted to individual needs. This leads us to a critical review of the role of the school psychologist in practice. Currently, tasks and actions of school psychologists are rather focused on classification, diagnosing, and decision making. The focus is not on providing specific guidelines for practice, whereas professionals “IN” the schools urgently need this information. This indicates a need for specific training in translating test results to guidelines during early

career, as well as professional courses later on. Professional organisations at national level (such as the NVO in The Netherlands) should take a leading role in this. Moreover, school psychologist should be aware of their own beliefs about intelligence and learning when administering and interpreting tests.

Next to school psychologists, all professionals in the schools (i.e., teachers, special care coordinators, and even school administrators) should acquire a disposition focused on the malleability of intelligence. During initial teacher training emphasis should be placed upon the crucial role teachers play in the learning processes of students. Teachers' implicit theories of intelligence influence the amount of teaching in, and exploration of, the Zone of Proximal Development of a student. This implies that the quality of teaching a student receives depends on which teacher provides the instruction. The instruction is influenced by implicit theories of intelligence. The third level of recommendations, thus, addresses the educational professionals who are responsible for adapting their instruction regularly to the individual needs of students. Skills need to be developed of all these professionals. The case of Yamina can be helpful to illustrate this statement. Since Yamina appeared to have a good potential to learn, and currently does not show enough progress, it should be evident that instruction should be adapted. It might be the case that the remedial teacher and the teacher respond differently to this advice. It could be that, after a while, the teacher is not convinced about Yamina's learning potential anymore since her school results do not improve despite several adaptations he made. It could be that the remedial teacher does not know how to include metacognitive teaching during the sessions with Yamina. It might be that the teacher knows how to do this, but is not sure about his own skills. If they both do not acknowledge their own expertise in the learning processes of Yamina, and do not feel responsible enough, then nothing will change in the instruction provided to Yamina. As a result, her future learning outcomes will not progress, despite her potential to learn.

This dissertation underlined the urgent need for more emphasis on beliefs and behaviour of educational professionals in the case of at-risk students. Only in this way

the consequential validity of (dynamic) assessment will be warranted. Eventually this will lead to bridging the gap between assessment and instruction, resulting in quality instruction, especially to at-risk students in the general classroom.

